

Vu, Anthony T.

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REMARKS

Claims 1-25 and 27-30 are pending in the present application. In the Office Action mailed May 9, 2005, the Examiner rejected claim 30 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. The Examiner next rejected claims 18, 20, 21, 23, 25, 27, and 30 under 35 U.S.C. §102(e) as being anticipated by Kaufman et al. (USP 6,690,961). Claims 18, 20, 25, 27, and 30 were rejected under 35 U.S.C. §102(e) as being anticipated by Zhang (USP 6,801,037). Claims 11, 14, 15, and 17 were rejected under 35 U.S.C. §102(e) as anticipated by Kaufman et al. or, in the alternative, under 35 U.S.C. §103(a) as obvious over Kaufman et al. in view of Zhang.

Applicant appreciates the indication that claims 1-10, 12, 13, 16, 19, 22, 24, 28, and 29 are allowed.

The Examiner rejected claim 30 as being indefinite. Specifically, the Examiner concluded that the claim "is vague and indefinite in that it fails to positively set forth any structure, therefore, it is unclear as to the scope of the claimed invention." Office Action, May 9, 2005, p. 2. Applicant disagrees.

It is well-established that there are two requirements of 35 U.S.C. §112, second paragraph. First, "the claims must set forth the subject matter that applicants regard as their invention." MPEP §2171. Second, "the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant." Id. With regard to the second requirement, it "is an objective one because it is not dependent on the views of applicant or any particular individual, but is evaluated in the context of whether the claim is definite – i.e., whether the scope of the claim is clear to the hypothetical person possessing the ordinary level of skill in the pertinent art." Id. Accordingly, for the Examiner to sustain a rejection under 35 U.S.C. §112, second paragraph, the Examiner must show that one skilled in the art would be unclear as to what applicant regards as the invention. As claim 30 is directed to a "control" that is configured "to allow modification of a given pulse sequence to operate in either a 2D mode or a 3D mode and acquire medical imaging data in either 2D or 3D using the modified given pulse sequence," it is not believed that one of ordinary skill in the art would be unclear as to what is being claimed as the invention.

That is, one skilled in the art would readily appreciate that a "control" is a device, that may comprise software, firmware, hardware, or combination thereof, that regulates the operation of a machine, apparatus, or system, and, in the context of the present application, a medical imaging scanner. Specifically, the present invention, as defined by claim 30, is directed to such a control that is designed to allow modification of a given pulse sequence and acquire medical

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imaging data. As such, the "control" is a structural element and the remainder of the claim defines features of that structural element that are believed to define the control to be patentable. Accordingly, claim 30 is neither vague nor indefinite, and apprises one skilled in the art of what Applicant regards as the invention as required by the statutory provisions of 35 U.S.C. §112.

The Examiner next rejected claims 18, 20, 21, 23, 25, 27, and 30 under 35 U.S.C. §102(e) as being anticipated by Kaufman et al. In the Response to Arguments section of the May 9, 2005 Office Action, the Examiner reiterated that it is believed that Kaufman "clearly uses a common pulse sequence that is modified depending upon whether a 2D or a 3D option is selected." Office Action, supra, p. 4. The Examiner again refers to Figure 4A of the reference. However, as explained previously, Fig. 4A only shows "exemplary display screen shots of MR image parameter settings for diagnostic and fluoro-mode imaging." Col. 4, lns. 17-19. That is, Fig. 4A shows a user interface that enables a user to select parameters for an impending scan. While Fig. 4A and elements 352 and 354 show that the user interface allows the user to select between various imaging processes (i.e. FE, SE, 2D, or 3D), nowhere does Fig. 4A, or Kaufman et al. as a whole, teach or suggest that these various imaging processes are conducted using a "common pulse sequence" to acquire MR images in 2D or 3D. That is, while claim 18 calls for using a common pulse sequence for the acquisition of 2D MR images as well as 3D images, Kaufman et al. makes no teaching or suggestion to conclude that a common pulse sequence is used for a selected 2D acquisition and a selected 3D acquisition.

In other words, the claimed invention calls for manipulation of a pulse sequence that can be used for both a 2D and a 3D acquisition, depending upon an input indicative of a given operator desire. That is, the same pulse sequence is used, i.e., is common to both a 2D and a 3D acquisition. The reference, however, discloses an user interface that allows a user to identify a particular imaging technique, such as fast echo or spin echo, as well as a 2D or 3D option, but makes no teaching that the pulse sequence that is used for a given 2D spin echo acquisition is common to the pulse sequence that is used for a 3D spin echo acquisition, or vice-versa. That is, the Examiner is reading in the particulars of the claimed invention into the disclosure of Kaufman et al. and then through circular reasoning is presuming that the reference discloses that which is being claimed. In this regard, the Examiner's interpretation that should a user select a "FE" imaging technique, a pulse sequence that is common to both a 2D or a 3D acquisition is used, is not supported by Kaufman et al. Accordingly, claim 18 calls for subject matter patentably distinct from that disclosed by Kaufman et al.

The Examiner also rejected claim 25 as being anticipated by Kaufman et al. However, as set forth above, Kaufman et al. neither teaches nor suggests a common pulse sequence that can be

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modified from a 2D acquisition to a 3D acquisition. Additionally, the Examiner previously indicated in the Office Action mailed December 15, 2004 that claim 25 would be allowable if the subject matter of claim 26 was incorporated therein. As Applicant amended claim 25 to incorporate the subject matter of claim 26, it is believed that claim 25 to be allowable. If the Examiner is withdrawing that previous indication of allowability, Applicant requests a clear confirmation of that decision in a non-final Office Action.

Regarding the rejection of claim 30 as being anticipated by Kaufman et al., Applicant refers the Examiner to the remarks above. As set forth herein, the reference fails to teach or suggest modification of a given pulse sequence to operate in either a 2D or a 3D mode of operation and the acquisition of imaging data with the modified pulse sequence. The reference teaches a scan prescription interface that allows a user to select an imaging technique and between a 2D or 3D mode of operation; however, Kaufman et al. neither teaches nor suggests that a given pulse sequence for a specific imaging technique is modified for a 2D or a 3D acquisition. As such, the control of claim 30 is believed to be patentably distinct from that disclosed by Kaufman et al.

Claims 11, 14, 15, 17, 18, 20, 25, 27, and 30 also were rejected as being anticipated by Zhang. Zhang teaches a user interface to facilitate designing an imaging sequence. The interface, as shown in Fig. 10A, though cited by the Examiner as teaching using a common pulse sequence to acquire MR images in 2D and 3D, does not support this conclusion. In particular, the Examiner cited element 1020, however, element 1020 is a menu that allows a user to select from one of "2D - Scan" (1022), "2D - Variable TR Scan" (1024), "3D - Scan" (1026), "FSE 2D - Scan" (1028), "FSE 3D - Scan" (1030), "Multiple 2D Scans" (1032), "Multiple 3D - Scans" (1034), and "Combo Scan" (1030). And while the reference teaches modifications of scan parameters for a given scan in real-time, nowhere does menu 1020 or any part of Zhang teach or suggest that "a common pulse sequence" is used for these different scans. Further, the reference neither teaches nor suggests switching a modifiable pulse sequence from a 2D acquisition mode to a 3D acquisition mode, or a control configured to achieve such modification. Absent such a teaching, one skilled in the art would assume that Zhang uses a different pulse sequence for each selection, as is what is typically done in the prior art. Therefore, Zhang does not teach or suggest using a common pulse sequence for a 2D acquisition and a 3D acquisition, as claimed. Accordingly, it is believed that claims 11, 14, 15, 17, 18, 20, 25, 27, and 30 call for subject matter patentably distinct from the art of record.

The Examiner then rejected claims 11, 14, 15, and 17 under 35 U.S.C. §103 based on the combination of Kaufman et al. and Zhang. As set forth above, neither reference discloses that

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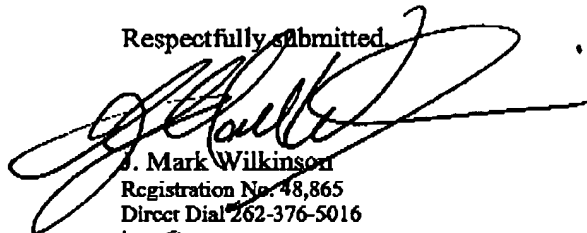
which has been asserted by the Examiner. Neither reference teaches nor discloses a selected pulse sequence that can be modified upon demand between a 2D acquisition and a 3D acquisition. Kaufman et al. teaches a user interface that allows a user to identify an imaging technique and one of a 2D or 3D acquisition. However, the reference does not disclose that the pulse sequence for a 2D acquisition for a given imaging technique is common to the pulse sequence used for a 3D acquisition with the given imaging technique. Similarly, Zhang teaches a user interface that allows a user to modify certain parameters of a given scan in real-time. However, those parameters do not include a switch between 2D and 3D modes of operation with a common pulse sequence. Accordingly, the combination of the two references do not collectively suggest that which is called for in claims 11, 14, 15, and 17. Allowance thereof is therefore requested.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-25 and 27-30.

Additionally, should the Examiner maintain the rejection of claim 25, Applicant requests issuance of a non-final Office Action as the Examiner previously indicated that claim 25 would be allowable if the subject matter of claim 26 was incorporated therein.

Applicant appreciates the Examiner's consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



J. Mark Wilkinson
Registration No. 48,865
Direct Dial 262-376-5016
jmw@zpspatents.com

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P.O. ADDRESS:
Ziolkowski Patent Solutions Group, SC
14135 North Cedarburg Road
Mcquon, WI 53097-1416
262-376-5170